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ABSTRACT

This first volume of a two-volume manual provides a structure for the analysis of the design of cooperative education and the implementation of the design in terms of the 49 key elements of cooperative education. It is intended for use by persons responsible for cooperative education at state and local levels. Volume I contains the introduction and a section on how to use the manual which provides: general information about the key element approach, the definitions of the key elements, an outline of the distribution of elements by level of importance and functional area, suggestions on how to incorporate materials from a key element description into the design, a discussion of general problems involved in attempts to replicate an element, and some techniques for modifying a key element to make it fit the parameters of a specific situation. This volume also contains the appendixes, including definitions of key elements (arranged into functional areas and grouped within area by level of importance), a form with instructions for making a force-field analysis, an example of a completed force-field analysis, and a worksheet for planning changes to improve an element. (YLB)

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KEYS TO COOPERATIVE EDUCATION PROGRAMS

Volume I

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National Child Labor Committee
1501 Broadway, Room 1111
New York, New York 10036
(212) 840-1801

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KEYS TO COOPERATIVE EDUCATION PROGRAMS

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KEYS TO

COOPERATIVE EDUCATION PROGRAMS

I. INTRODUCTION

Cooperative education is potentially the most efficient and effective process for preparing students for employment upon graduation from secondary school. While there are many good cooperative education programs, there is little generally available knowledge and agreement about the factors associated with successful programs other than the teacher/coordinator's competence, enthusiasm and willingness to work hard. This manual is designed as a start toward remedying the situation. It is intended for use by persons responsible for cooperative education at state and local levels -- practitioners rather than academics. The manual is one of the products of a project designed to help improve and expand secondary cooperative education funded by the Edna McConnel Clark, Charles Stewart Mott, Ford, and Atlantic Richfield Foundations.

We have drawn our findings, ideas, and recommendations in part from our own research and past experience, but primarily from sources such as: texts, articles, manuals, reports and research dealing with cooperative education; and questionnaires and personal interviews with business executives, educators and people involved in cooperative education and other work experience and education programs. We have used and interpreted findings, concepts, recommendations, etc., from so many different sources that it is virtually impossible to identify the specific source for any one idea and to give credit for every single point. We apologize to the many people and institutions to whom we are unable to give credit. Wherever possible, we have provided information about sources for additional materials.

The project included several studies to obtain information on cooperative education. These were studies designed to:

1. Identify a sample of schools with outstanding cooperative education programs;

2. Determine activities of federal and state departments of education and labor to support cooperative education;

3. Obtain information from schools identified as having outstanding cooperative education programs about:

   a. which program elements they consider important and which, in their programs, they feel are exemplary;

   b. the nature of support they receive from state departments of education; and

   c. areas in which additional support would be useful.

4. Obtain views of large national and smaller local employers and employer and labor organizations with respect to cooperative education;

5. Learn the role played by organizations established to link industry and education and provide easier transition from school to work;

6. Ascertain the nature of labor market information available to teacher/coordinators and the use made of available information.

The information obtained was used, in part, in preparing the element descriptions in this and other project products. We made particular use, in this manual, of the approaches, comments, and recommendations of the schools identified

as having outstanding cooperative education programs. We provided state departments of education with the criteria listed below to help normalize the selection of "outstanding" programs. These criteria were developed based on interviews with people who have had considerable experience in cooperative education in a number of roles including teacher/coordinator, school district administrator, state department of education advisor, and independent consultant. They were asked how high performing (outstanding) programs differ in performance and results from low performing programs. The set of criteria below is what came out of the interviews.

Criteria for Identifying Outstanding Cooperative Education Programs

Programs which are successful in a significant set of the following:

1. obtaining support from the school system

2. meeting employers' needs and gaining and maintaining employers' support

3. recruiting many and diversified work stations

4. developing work sites which provide good work experience with occasions to practice acquired skills and learn new skills, good supervision, useful performance evaluation, opportunities to work with adults, adult responsibilities, and the basis for acquiring good work behavior

5. monitoring work sites regularly

6. linking work experience and classroom education

7. preparing students for work

8. percentage of the youth who graduate

9 percentage of the youth who get jobs after graduation

10. providing good work stations for targeted groups such as: disadvantaged, handicapped, teenage mothers, minorities, and youth known to the criminal justice system

11. a significant set of key elements* other than those described above.

A major obstacle to progress and improvement in cooperative education is failure to identify and define the elements of cooperative education. Our definitions are an effort to provide a structure for discussion and detailed analysis. We identified, defined, and catalogued forty-nine cooperative education key elements**. We categorized them by level of importance and functional area, and prepared detailed descriptions of the most important elements.

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* These are listed in Appendix A
**See Appendix A

This manual is in two volumes. Volume I contains the "Introduction" and a section on "How to Use the Manual" which contains general information about the key element approach, the definitions of the key elements, the distribution of elements by level of importance and functional area, suggestions how to incorporate materials from a key element description into your design, a discussion of general problems one faces in attempts to replicate an element, and some techniques for modifying a key element to make it fit the parameters of a specific situation. Volume I also contains the appendices. Volume II is the heart of the manual. It contains an Element Description* for each of the most important key elements. It is prepared as a separate volume in loose leaf form so that additional elements can be added.

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*One element, "Recrutiing Employers" is only, in part, discussed in this manual. "Identifying Appropriate Work Stations," an important preliminary to recruiting employers is in this manual. Selling cooperative education to employers, the other factor, is so important that we have prepared an entire manual, "Presenting Cooperative Education," to provide guidance. We have a third manual, "Managing Cooperative Education," to provide, in one place, guidance relating to all the elements involved in administering a program. A separate manual has been prepared for the key element "Cooperative Education Programs for Students with Special Needs."

II. HOW TO USE THE MANUAL

When Is Help Needed?

There are a number of situations in which administrators and teacher/coordinators can use help in planning and administering cooperative education. It is easy to waste considerable effort trying to improve administration of a poorly designed program or attempting to change the design of a poorly administered program. Consequently, it is crucial to determine first what needs improving and why this should be improved.

Sometimes the problems stem from failure to define and use program goals, objectives, and policies. Where goals and objectives are not defined, it is almost pointless to try to improve other elements. To do so would be as effective as starting to run with the ball without being sure of the direction of the correct goal line. The element, "Goals, Policies, and Objectives" provides guidance for defining cooperative education goals, policies, and objectives. Where goals, policies, and objectives are defined, problems which arise are of three types:

1. The design is poor -- some examples:

   a. satisfactory completion of all intermediate objectives would not lead to achieving defined goals and objectives, i.e., there is no logical and real sequence from activities to intermediate objectives to goals;

   b. important key elements are missing, inadequate, or do not mesh appropriately with other key elements;

   c. policies have not been enunciated to provide general rules for activities to guide movement from input to output;

d. external social, economic, demographic, or political conditions have changed and the design was not changed to adapt to these new environmental conditions;

e. resources to implement the design are not available.

2. The design is satisfactory but the implementation is poor -- some examples:

a. staff ignores or doesn't understand or doesn't agree with the goals, objectives, and policies for the program;

b. staff does not have the will or competence to achieve the objectives of one or more important elements;

c. there is poor allocation of resources resulting in over-emphasis on some elements and under-emphasis on others;

d. expected linkages, such as resources, jobs, and other supports, with other systems break down or are not developed as a result of action or inaction by others.

3. The most common situation is a combination of poor design and poor administration.

This manual is primarily concerned with problems relating to improving design. It does contain a number of elements directed toward recruiting and developing competent staff. It does not deal with those difficult situations in which staff or school administrators

are uninterested, unwilling to commit resources, unenthusiastic, or opposed to cooperative education. These cannot be handled, in general, by written material.

The manual provides a structure for the analysis of the design of cooperative education and the implementation of the design in terms of the forty-nine key elements and guides for evaluating and improving the most important of these elements. The approach is primarily analytic; the syntheses, i.e., balancing and meshing elements, is left to you.

Exemplary Key Element Approach

The exemplary key element approach to provide useful information for successful replication is based on the following observations:

1. All cooperative education programs have a large number of common elements.

2. The number of these elements which are important and can be significantly influenced by people in the educational system is limited (we have noted 49 which we are calling "Key Elements").

3. It is easier to make effective use of information about an element than about an entire program.

4. It is easier to make effective use of specific information from outstanding programs together with general information distilled from theory and experience than from either alone.

5. Descriptions of exemplary elements can stimulate both critical and innovative thinking about the same element in another program.

6. Specific examples which relate to an identified problem area provide a better take-off point for innovative, creative thinking than general statements about "good" elements and programs.

The forty-nine elements listed provide a checklist of important elements to review in the design and conduct of cooperative education. If upon review, you believe it desirable to improve an element, the descriptions of the most important exemplary elements in Volume II provide you with discussion and illustrations.

Most teacher/coordinators take over an existing program. There is usually no discussion of goals, policies, and objectives, except as these are directed toward limiting selection of work stations for a number of reasons such as time and place of employment and provisions of child labor laws. The unexpressed primary goals seem to be to obtain as many work stations as there are students wishing to participate and to keep employers satisfied and supportive. The elements, except as they relate to these two goals, are either addressed in routine fashion or ignored.

The exemplary element approach suggests that many elements, including those in the lowest category of importance, can play important roles in determining the effectiveness of cooperative education. There are several situations in which an administrator, an advisory board member, or a teacher/coordinator may want to

refer to the element descriptions in the manual. Some are:

1. In the initial design of a cooperative education program;

2. As a checklist to insure that important key elements have been considered in the operation of a program;

3. For help in redesigning an element which seems to be unsatisfactory;

4. To gain greater understanding of the functioning of cooperative education and the interrelations among elements;

5. For overall review and evaluation of an existing program.

Depending on the specific situation, one might read through the entire manual or refer only to the page on which a particular key element is described. Nothing special is required to use the material as a checklist. This is simply a matter of going through the list of elements and noting whether or not the element is clearly defined and included in your program design and implementation. It involves identifying trouble spots and asking questions to define the problem.

The use of the checklist to identify elements to review is not subordinate to determining how to improve an element. If anything, it is superior. The key to improving is to identify what is most important and beneficial to improve and then to focus attention and resources on those elements. It is not to improve elements simply because we can improve them. The elements we choose to improve should have a major impact on the final result. Only

after identifying elements to study is it time to review the element descriptions with an eye to making changes in an element. However, many of the element descriptions include criteria for evaluating an element and almost all contain a discussion of the relationships between the specific element and other elements and between the element and cooperative education objectives. These are useful in identifying the important elements on which to focus attention.

Where there is dissatisfaction with an element, there are two ways to attack the problem, making use of the materials in the manual. The first is to analyze the situation as a whole and note specific elements' desirable and undesirable aspects. The analysis starts by identifying the outcomes of the present program, both satisfactory and unsatisfactory, and working back by cause/effect steps to the role played by the element under consideration in influencing the outcome. The role of the element is then studied to determine how it influenced the outcome positively or negatively and a force-field analysis* inventory prepared.

The purpose of a force-field analysis is to determine how to strengthen the aspects of the element which have a positive impact and to weaken those which have a negative impact. It is in this analysis that the element description can provide leads, examples, full blown ideas, and guides.

The second approach is to focus initially on the characteristics of the elements which seem to be either unsatisfactory or satisfactory and use the force-field approach to design a better element.

*Appendix B is a form with instructions for making a force-field analysis. Appendix C is an example of a completed force-field analysis.

The advantages of the second approach are that it takes less time and effort to improve an element and it is directed at the identified trouble spot from the beginning. The advantage of the first is that the entire program is reviewed leading up to the presumed problem -- the troublesome element. Not so troublesome but improvable relationships involving the entire operation may also be identified and dealt with.

The element descriptions are based on: 1) descriptions of elements that administrators and teacher/coordinators in outstanding programs feel contributed to their success and which they feel are worthy of replication by others; 2) analysis of manuals and guides provided by state departments of education and school districts; 3) books and articles dealing with administering cooperative education programs both at the secondary and post-secondary levels; 4) curriculums of training courses and college programs to prepare and increase the competence of teacher/coordinators; and 5) our discussions and observations on visits to 20 "outstanding" programs.

The elements are categorized by level of importance. The levels are defined as:

I. Elements at this level of importance are <u>almost always</u> crucial to the success of the entire program and are usually given the <u>highest priority</u> in exemplary programs.

II. Elements at this level of importance are <u>sometimes</u> crucial to the success of the entire program, <u>usually</u> influence the impact of other elements, and are given <u>high priority</u> in exemplary programs.

III. Elements at this level of importance are <u>seldom</u> crucial to the success of the entire program, <u>frequently</u> influence the impact of other elements, and are given <u>some priority</u> in exemplary programs.

IV. Elements at this level of importance are not crucial to the success of the entire program, sometimes influence the impact of other elements, and are usually given limited priority in exemplary programs.

V. Elements at this level of importance are not crucial to the success of the entire program, occasionally influence the impact of other elements, and are almost always given low priority in most exemplary programs.

Definitions of level of importance for conducting outstanding cooperative education programs were determined from reports by schools identified by state departments of education as having outstanding programs and from consultants who have reviewed and evaluated cooperative education in secondary schools. Level "I" elements are most important and most commonly "exemplary" in outstanding cooperative education programs, level "II" elements are next in importance, and so on down to level "V". The following table illustrates this.

Frequency of Occurence	Quality in Exemplary Programs		
	Excellent	Very Good	Satisfactory
almost always	I	II	III
usually	II	III	IV
sometimes	III	IV	V

We offer this categorization of the levels of importance of elements as a rough guide. On the basis of the information we received from state departments of education and local education districts and programs, it is clear that one or more less important elements of a higher quality than in the majority of schools with outstanding cooperative education can make up for a more important element of less than the indicated quality. Also, levels of importance are strongly influenced by local conditions.

Elements are further grouped by functional area. The functional areas we define are:

A. Obtaining support for the program.

B. Goal setting, planning, and administering the program.

C. Employer linkages, relations, and cooperation.

D. In-school program activities.

E. Follow-up.

The chart on the following pages lists key elements grouped by functional areas and levels of importance. The order within any one box is random and does not indicate a level of importance.

KEY ELEMENTS GROUPED BY FUNCTIONAL AREA AND LEVEL OF IMPORTANCE
(Asterisks (*) indicate key elements located in more than one functional area.)

	FUNCTIONAL AREAS				
Level of Importance	A Obtaining Support for Program	B Goal Setting, Planning and Administration	C Employer Linkages, Relations and Cooperation	D In-School Program Activities	E Follow Up
I	1. Public Relations	13. Selecting and training teacher/coordinators 14. Program planning	25. Recruiting employers 26. Dealing with employers' problems 27. Orienting employers and supervisors 28. Evaluation of student's work performance by employer 29. Improving the work site	41. Preparing student for work assignment 42. Matching students and jobs 43. Use of work performance evaluation by teacher/coordinator	
II	2. Employer recognition* 3. Community support for programs 4. Support for program by employers' personnel*	15. Defined goals and policies 16. Program administration 17. Training agreement* 18. Resources for teacher/coordinators 19. Criteria for selecting work stations	30. Relating in-school and on-the-job learning* 31. Jobs designed to meet developmental needs * Training agreement* 32. Training work supervisors * Support for program by employers' personnel* 33. Flexibility in adjusting to students' needs * Employer recognition* 34. Related class curriculum*	44. Programs for students with special needs * Relating in school and on-the-job learning* 45. Role of guidance counselor 46. Selecting and assigning students * Related class curriculum* 47. Students' orientation to cooperative education	

III	5. Status of work experience programs in the school system 6. Parents' participation and support 7. Citizen advisory or steering committee 8. Recruiting students*	20. Labor market information * Citizen advisory or steering committee* 21. Program evaluation 22. Follow-up on program graduates* * Resources provided by the government* 23. Manuals and guides for school personnel*	35. Participation in student occupational organizations* 36. Employer participation in student selection 37. Training plan* 38. Handling conflict and discipline at the work site	* Training plan* 48. Students' participation in assignment * Participation in student occupational organizations* * Recruiting students*	49. Post-graduation support * Follow-up on program graduates* * Program evaluation*
IV	9. Resources provided by government* 10. Resources obtained from other than government sources 11. Support by employer organizations	* Resource provided by government* * Manuals and guides for school personnel*	39. Students' participation in identifying work stations*	* Students' participation in identifying work stations*	
V	12. Support by unions	24. Coordination with other school programs	40. Manuals and guides for employers' personnel		

Use of Descriptions of Key Elements

The design of an effective element depends on local conditions, resources, history, etc. These must be considered in determining how to replicate a given element.

Descriptions of exemplary key elements can be useful even when local conditions and limitations make the specific exemplary element described in the manual inappropriate.

We have included in the "Discussion" section of each element (Volume II) the basis for designing your own element and some criteria for evaluation. The manual also can be used:

1. as a data bank of concepts (i.e., sub-elements contained in exemplary elements) which can be incorporated into the elements in your design;

2. by considering all key elements in the same functional area as a single source of ideas, and combining concepts from different elements to produce a single satisfactory element;

3. by considering the multiple use of an element which is in two functional areas;

4. by varying factors in a key element or the concepts in one or more elements as interrelated parts of a single activity to insure that they harmonize, mutually support each other, and will mesh with those of other educational and social programs;

5. as the basis for instruments to evaluate elements.

Making maximum use of the exemplary key elements requires that you clearly define the long-term goals and operational objectives for cooperative education and determine how these relate to other program goals of the educational system and the broader social, political, and economic systems in your community. It is quite certain that some of the goals and objectives of different educational programs will compete with each other and with others in the local political, social, and economic systems for publicity, community support, and resources. There may be little that you want or are able to do about this competition. Designing and implementing elements one by one or to achieve a single goal may be dangerous; it tends to produce tunnel vision and may inadvertently introduce conflict and unnecessary barriers to the achievement of other important goals and objectives.

Designing New Elements and Making Change

After the desirability for making the effort to change an element has been decided, the question is what change to make. (Appendix D is a record sheet for planning changes.) Where the material in the element description provides enough information to redesign the element, there is no problem. Where it does not, there is work to be done before we decide how to change. The material in the element description may not be adequate for a number of reasons. Some are:

1. The information is not sufficently complete to permit immediate change in design.

2. The kind of element described and the material in the "Discussion" section do not mirror local conditions. However, they can be made to fit by making some modifications.

3. The suggestions are simply not usable under existing conditions. To try may be dangerous with respect to educational, business, or community support and preferences, resources available, local mores, etc.

The first two reasons above contain, within the statement of the problems, their solutions. The solution to the first is to get more information. Sources are your State Department of Education, the literature on cooperative education, both secondary and post-secondary, and the schools which reported that their element is exemplary. The latter information can be obtained through NCLC which is keeping a record of the reporting schools.

Another major source is the Consultants' Network, which NCLC is in the process of developing. This is a group of knowledgeable, experienced practitioners, at state and local levels, who have agreed to be available to help school systems which want to improve their cooperative education programs.

The solution to the second is simply to make the changes indicated. Again, if more information is needed, it should be obtainable through your Advisory Committee, other sources of local information, and the sources indicated for the first problem.

The third type of problem is more difficult to solve. Some problems of this type may indeed be unsolvable under existing condi-

tions. However, that is not a conclusion to start with. Some approaches are:

1. To try to systematically modify the element, adapting the leads in the element description to design a new, improved, acceptable element. (Some techniques are described in this section in addition to the Force-Field technique to which there has been reference.)

2. To check with other local schools which have substantially the same conditions to determine whether they have a better element than yours and if one does, to use it.

3. To study the practicality of attempting to change local conditions to make either your element more effective or the suggestions in the element description usable and if not too impractical to try to change conditions.

4. To determine what the possible adverse consequences would be if you ignored the local conditions which mediated against change and, if the risk of unacceptable consequences is not too great and change is crucial, to consider going ahead.

5. To consult with one or more members of the Consultants' Network.

6. If none of the foregoing is acceptable, to give up on making change in this element and seek to strengthen

another element to compensate for weakness in this one or to start your analysis over again to try to design a satisfactory element.

Some approaches for modifying an element design are:

1. Write out the reasons and the conditions why the present design and the examples and suggestions in the element description are undesirable or not acceptable. Clarify, simplify, and reduce the conditions to point up the key issues. Review these conditions to determine whether or not the objections still hold. (Sometimes they disappear at this stage.)

2. Write down the factors or variables in the element that you can change. (For example, in the element "Recruiting Employers," some of the variables are (a) methods of contacting employers, (b) the kinds of employers to contact, (c) leads to determine specific employers to contact, (d) when to contact employers, (e) outside resources to use in influencing employers to participate, and (f) the kind of approach to take with employers.) Without attempting to evaluate or provide details, develop as many variations as you can for each of these. (Some of the variations for "methods of contacting employers" are: by letter,

telephone, or personal visit; via mass media, TV, radio, press, other publications; through an intermediary, members of the advisory committee, trade association, friends, parents; and by attending meetings of Rotary, Chamber of Commerce,civic organizations.)

Two ways to develop variants are:

1. To free associate (brainstorm) and to develop a list as illustrated above, and

2. To use a check list to force a trend of thought and structured responses.

The checklist should be in the form of a question which can be asked of each item in the factor or variable which is subject to change. With some experience you will be able to develop a checklist with which you are comfortable and can use effectively. Until you do, the following is a list you can use. It is not to be expected that every question can be asked profitably for every variable.

How can I change this variable to:

a. reduce dependence on outside resources;
b. get greater support from outside resources;
c. increase involvement of others;
d. reduce involvement of others;
e. attract increased resources;
f. decrease cost;
g. increase positive output;
h. decrease negative output;
i. decrease scope of application;

j. increase scope of application
k. interchange actor and acted upon;
l. combine it with another variable.

Applying these questions to "personal visit" one of the variables of "methods of contacting employers" might yield:* a) visit people in school systems about possible jobs; b) have others arrange for your visits, e.g., parents, advisory committee, have a committee member visit with you; c) get others to visit -- students, parents, advisory committee; d) discourage visits by students and parents, make all contacts yourself; e) get funding for specialists in job development to visit prospective employers or get help from local Private Industry Council; f) limit contacts to employers who ask for information, are active in civic organizations, etc.; g) check at the same time for other possible participation, e.g., advisory committees, materials, future work stations; develop and test special materials for visits; simulate and role play visits; get feedback on effectiveness from those people visited; h) don't visit employers who are cooperating with other employment programs or where there is strong opposition; i) limit contacts to employers from previous years who might employ the more difficult students to place; those who have the specific types of jobs needed; those who would provide continued employment after graduation; j) include employers outside the school district, visit for next year as well as this, visit unions as well as employers; k) invite employers to come to school, to a group meeting, to a student fair; l) ask in letter if a personal

*The letters correspond to those in the list of questions.

visit would be helpful, arrange for personal visits at meetings of the Rotary Club, use a simulated personal visit on radio and television.

Some of the element descriptions contain suggestions of how variables in the element might be changed.

The approaches to determining how to change local conditions so that a specific design might be useful are much the same as the approaches for modifying an element which have been described above. The difference is that here we attempt a) to determine the local conditions which are susceptible to change, b) to identify the conditions which must exist for the change we want to achieve, and c) to determine how best to change from existing to needed conditions.

APPENDIX A

KEY ELEMENTS*

Arranged in Functional Areas** and grouped within area by Level of Importance.***

KEY ELEMENT DEFINITIONS

Functional Area A: Obtaining Support for the Program

LEVEL I

1. Public relations: on-going activities to inform both the general public and key groups, e.g., employers, about the co-operative education program's objectives, activities, concepts, ideals, and successes for the purpose of developing support for programs and increasing participation.

*Forty-nine elements identified as key for co-operative education programs.

**Five Functional Areas into which the key elements fall: A: Obtaining Support for the Program; B: Goal Setting, Planning and Administering the Program; C: Employer Linkages, Relations and Cooperation; D: In-School Program Activities; E: Follow-up

***Importance for design and conduct of an outstanding secondary cooperative education program. Level I contains the most important elements, etc. The order within levels is random and not indicative of relative importance.

LEVEL II

2. Employer recognition: A formal program to recognize and encourage continued employer participation and efforts to achieve program objectives and to increase support for cooperative education.

3. Community support for programs: The views of people and organizations in the community with respect to cooperative education programs and their expressed positions with respect to continuing and expanding these programs.

4. Support for program by employers' personnel: Increasing the support of supervisors and other workers to the objectives and processes of the program and the degree to which they try to implement the training agreement and training plan.

LEVEL III

5. Status of work experience programs in the school system: How participants, students and staff are viewed by others in the school and the level of acceptance, endorsement and support for cooperative education given by principals, guidance counselors, teachers, and administrators.

6. Parents' participation and support: The degree to which parents are involved in the cooperative education program including : serving on advisory committees, participating in activities to gain community and employers' support for cooperative education, supporting cooperative education goals and policies, and keeping informed of their children's progress.

7. Citizen advisory or steering committee: An official body with persons representing employers and community groups which meets regularly for the purpose of offering counsel, direction and assistance for the cooperative education program.

8. Recruiting students: The techniques and approaches used to inform and attract students for cooperative education.

LEVEL IV

9. Resources provided by government: Both budgeted and unbudgeted resources made available by the federal, state, and local governments for the cooperative education program, including funds, materials, supplies, equipment, space, staff, consulting services, and technical assistance.

10. Resources obtained from other than government sources: Resources, including: materials, supplies, equipment, consulting services and technical assistance contributed to the cooperative education program by employers and others in the community.

11. Support by employer organizations: How employer organizations view cooperative education and the extent to which they help the program by recommending and recruiting people to serve on advisory committees, providing technical assistance, suggesting curricula, etc.

LEVEL V

12. Support by unions: How unions view cooperative education and the extent to which they help the program by recommending and recruiting people to serve on advisory committees, providing technical assistance, suggesting curricula, and encouraging placements in union shops.

Functional Area B: Goal Setting, Planning and Administering the Program

LEVEL I

13. Selecting and training teacher/coordinators: Identifying competencies needed to be effective teacher/coordinators and determining methods used to select potentially effective teacher/coordinators and to train them to realize their potential.

14. Program planning: Plans to develop, conduct and evaluate a cooperative education program including activities to identify needs and resources, match students with jobs, make work experience compatible with existing classes and schedules, and establish benchmarks to evaluate progress.

LEVEL II

15. Goals, policies and objectives: Written official statements by the responsible educational agencies that delineate what is to be achieved by cooperative education and how to go about achieving it.

16. Program administration: Program management including planning, organizing, evaluating, controlling, budgeting, supervising, communicating, and linking the program's activities to those of other systems.

17. Training agreement: A document signed by the teacher/coordinator, employer, and student defining the responsibilities of each, nature of work to be performed, time and hours of employment, and rate of pay for the work.

18. Resources for teacher/coordinators: The office space, equipment, supplies and travel allowance and other resources provided for teacher/coordinators to help them perform their jobs.

19. Criteria for selecting work stations: Requirements and guides established by the state department of education and local officials for selection of work stations and criteria used by teacher/coordinators.

LEVEL III

20. Labor market information: Information about jobs which are appropriate for students and are available in the community, the employers who have the jobs, and the skills and abilities students should have and may be expected to gain in each job.

X* Citizen advisory board or steering committee (A7)

21. Program evaluation: Activities to measure achievement of program goals, and the effectiveness of specific elements such as program administration, student selection, scheduling, related classroom instruction, work experience, forms and records, teacher/coordinators and public relations.

22. Follow up on program graduates: Feedback from program graduates and work sponsors to obtain information for evaluating and improving the program and to assist cooperative education graduates achieve career objectives.

LEVEL IV

X. Resources provided by government: (A9)

*Elements indicated by "X" are listed in two Functional Areas. The symbols in the parentheses following the element title identify the other Functional Area and the number of the element in that Area.

23. Manuals and guides for school personnel: Materials to instruct and assist teacher/coordinators, counselors, and administrators to carry out their roles effectively.

LEVEL V

24. Coordination with other school programs: The degree to which the cooperative education program is linked to other school activities and staff to integrate work experience with other school work and deal with individual student's school problems and program needs.

Functional Area C: Employer Linkages, Relations and Cooperation

LEVEL I

25. Recruiting employers: Identifying employers who can provide appropriate work experience for students and getting them to participate in accordance with a training agreement.

26. Dealing with employers' problems: The flexibility and ability to counsel students, provide educational support, change education programs, time schedules and training plans, and to provide assistance to solve problems at the work place.

27. Orienting employers and supervisors: Provide employers and work supervisors with information and answer their questions with respect to the objectives, procedures, and other elements of the program, motivate them to play the expected role of supervisor, and make effective use of the teacher/coordinator.

28. Evaluation of students' work performance by employer: The criteria and procedures for evaluating students' work performance and supervisors' use of the performance evaluation.

29. Improving the work site: The frequency and nature of regular visits teacher/coordinators make to each work station to determine adherence to the training agreement and training plan, orient students, evaluate students' progress, relate work experience and school instruction, develop the work station, resolve problems, and improve the program.

LEVEL II

30. Relating in-school and on-the-job learning: The process for meshing and structuring work experience and school learning to make these activities mutually supportive.

31. Jobs designed to meet developmental needs: School and employers' efforts to identify and structure jobs to match students and jobs and to maximize students' opportunities to become competent workers.

X. Training agreement: (B17)

32. Training work supervisors: Providing training assistance to employers to help insure that supervisors understand needs of young people and can provide effective supervision and training.

X. Support for program by employers' personnel (A4)

33. Flexibility in adjusting work stations to students' needs: The degree to which employers are open to suggestions from the teacher/coordinator to change tasks and other work conditions to meet contract and training plan terms and the developmental needs of students.

X. Employer recognition (A2)

34. Related class curriculum: The curriculum for the class conducted by the teacher/coordinator which serves to link school and work.

Level III

35. Participation in student occupational organizations: Participation by students, staff, and employers in student occupational organizations and how this is used to complement, supplement, strengthen, and enrich the program.

36. Employer participation in student selection: The role the employer plays in selecting a particular student for a specific work station.

37. Training plan: The individual training plan developed by teacher/coordinator, employer and student which specifies the learning experiences to be provided on the job, the related classroom instruction and the progression and time frames for each.

38. Handling conflict and discipline at the work site: The structure, guidelines and process for handling conflict at the work site involving a student.

LEVEL IV

39. Students' participation in identifying work stations: The degree to which students are encouraged to seek and succeed in obtaining jobs which are appropriate cooperative education work stations.

LEVEL V

40. Manuals and guides for employers' personnel: Materials provided by the school system for participating employers which spell out program objectives, guidelines and procedures, and provide information to help employers' personnel carry out their roles.

Functional Area D: In-School Program Activities

LEVEL I

41. Preparing student for work assignment: Instruction about the world of work to help the student understand and accept the roles of the cooperative education student and others in the work place and the requirements of the work place including: punctuality, dependability, cooperation with other workers, productivity and supervision.

42. Matching students and jobs: The process for assigning students to jobs to provide them with appropriate learning experiences to mesh career objectives, school learning and work experience.

43. Use of work performance evaluation by the teacher/coordinator: Use of supervisors' evaluations to

change in-school instruction and work assignments and to provide motivation, counseling and coaching for student and technical assistance for the employer.

LEVEL II

44. Programs for students with special needs:* Activities, classroom instruction, recruitment efforts, etc., for educationally disadvantaged students, handicapped students and others who would have greater difficulty in obtaining good job placements than other cooperative education students.

X. Relating in-school and on-the-job learning: (C30)

45. Role of the guidance counselor: Guidance and counseling services to help students in vocational and career decision making, and relationships between counselor and teacher/coordinator.

46. Selecting and assigning students: Criteria and procedures for selecting student participants and assigning them to specific work stations. These include: age, grade, competencies, career aspirations, work readiness, and developmental limitations.

X. Related class curriculum: (C34)

47. Students' orientation to cooperative education: School activities to explain and introduce cooperative education to students and to prepare them to make the most effective use of the opportunities presented. Includes discussion of training agreements and plans, relationship between education and and work experience and between teacher/coordinator and supervisor, and education to meet task requirements.

*This element will be covered in a seperate manual.

LEVEL III

X. Training Plan: (C37)

48. Students' participation in assignment: The ability of students to influence their assignments to work stations.

X. Participation in student occupational organizations (C35)

X. Recruiting students: (A8)

LEVEL IV

X. Students' participation in identifying work stations: (C39)

Functional Area E: Follow-Up

LEVEL III

49. Post graduation support: Planned activities to help program graduates to achieve career objectives including counseling, educational planning, and job development and placement.

X. Followup on program graduates: (B22)

X. Program evaluation: (B21)

Appendix B

FORCE-FIELD ANALYSIS

To Identify Opportunities to Improve Cooperative Education

PART 1: Problem Specifications: To determine what opportunities there are to improve the effectiveness of the element:

Complete the following items with as much detail as possible.

1. It is important to improve this element at this time because:

2. The following factors which determine usefulness and cost must be considered in any attempt to improve this element:

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3. Change in this element would impact on other elements in the following ways:

4. Barriers which may hinder making changes in this element are:

5. The following changes would lead to improvement in this element:

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6. Changes in other elements which may improve this element and how each would impact on this one:

PART 2: Problem Analysis: The present status of the element is a result of a temporary balance of driving forces tending to produce change and restraining forces tending to prevent change.

7. List the forces which in general tend to favor change (reasons in "1") and to drive* toward the specific changes noted in "5" and "6." (Fill in the spaces to the right of the letters. Leave the spaces to the left blank.)

*Some forces may tend to "drive" toward one change suggested and tend to "restrain" making another change. In these cases, note them under the primary direction of thrust here, but note both directions in the chart in item 11.

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____a._____

____b._____

____c._____

____d._____

____e._____

8. List the forces which in general tend to restrain* change noted in "4" and in the specific directions noted in "5" and "6." (Fill in the spaces to the right of the letters. Leave the spaces to the left blank.)

____a._____

____b._____

____c._____

____d._____

____e._____

*Some forces may tend to "drive" toward one change suggested and tend to "restrain" making another change. In these cases, note them under the primary direction of thrust here, but note both directions in the chart in item 11.

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9. In the spaces to the left of the letters in item 7, rate the driving forces you have listed from 1 to 5 using the following scale:

   1 = Has almost nothing to do with achieving change in the element.

   2 = Has relatively little to do with achieving change in the element.

   3 = Is of moderate importance for achieving change in the element.

   4 = Is an important factor for achieving change in the element.

   5 = Is a major factor for achieving change in the element.

10. In the spaces to the left of the letters in item 8, rate the restraining forces you have listed, using the following scale:

   1 = Has almost nothing to do with achieving change in the element.

   2 = Has relatively little to do with achieving change in the element.

   3 = Is of moderate importance for achieving change in the element.

4 = Is an important factor for achieving change in the element.

5 = Is a major factor for achieving change in the element.

11. In the chart provided, diagram the forces driving toward change and restraining change that you rated in items 8 and 9. Use key words to identify each of the forces driving toward change (a through e). Repeat the process for forces restraining change. If there are driving and restraining forces which relate to the same change, place them in the same slot. If several forces apply to the same change, put them on the same horizontal line. If a force applies to more than one change, repeat it for each change. "Change number" is the number of the changes noted in items 5 and 6*.

12. For each change with forces rated "5" develop a series of strategies and tactics to increase the potency of driving forces and reduce the potency of restraining forces. Continue this process with forces rated "4," "3," "2," and "1" in order, until an appropriate strategy is developed for each. Stop when you feel that you have developed a satisfactory overall strategy and set of tactics for accomplishing the

*indicate whether "5" or "6" and change number. For example, 5/3 indicates the third change in item 5.

desired changes. Compare strategies and tactics across changes and eliminate possible conflicts. It may be that some proposed changes may have to be dropped as the restraining forces remain too strong to make change feasible.

13. Describe your plans in detail.

    a. Specify the problem to be solved or why the element is selected for improvement.

    b. Describe the changes that will improve the element or solve the problem. Show how the changes would achieve the objective.

    c. Describe in detail the strategy and tactics for accomplishing the changes. Explain why these should succeed and any trade-offs which may be involved. Describe resources, staff, etc, required and note how these would be obtained and used. Provide schedules, controls, etc.

    d. Indicate possible undesirable consequences for achieving other objectives and explain any trade-offs.

    e. Note possible difficulties in achieving the desired change and ways to overcome these.

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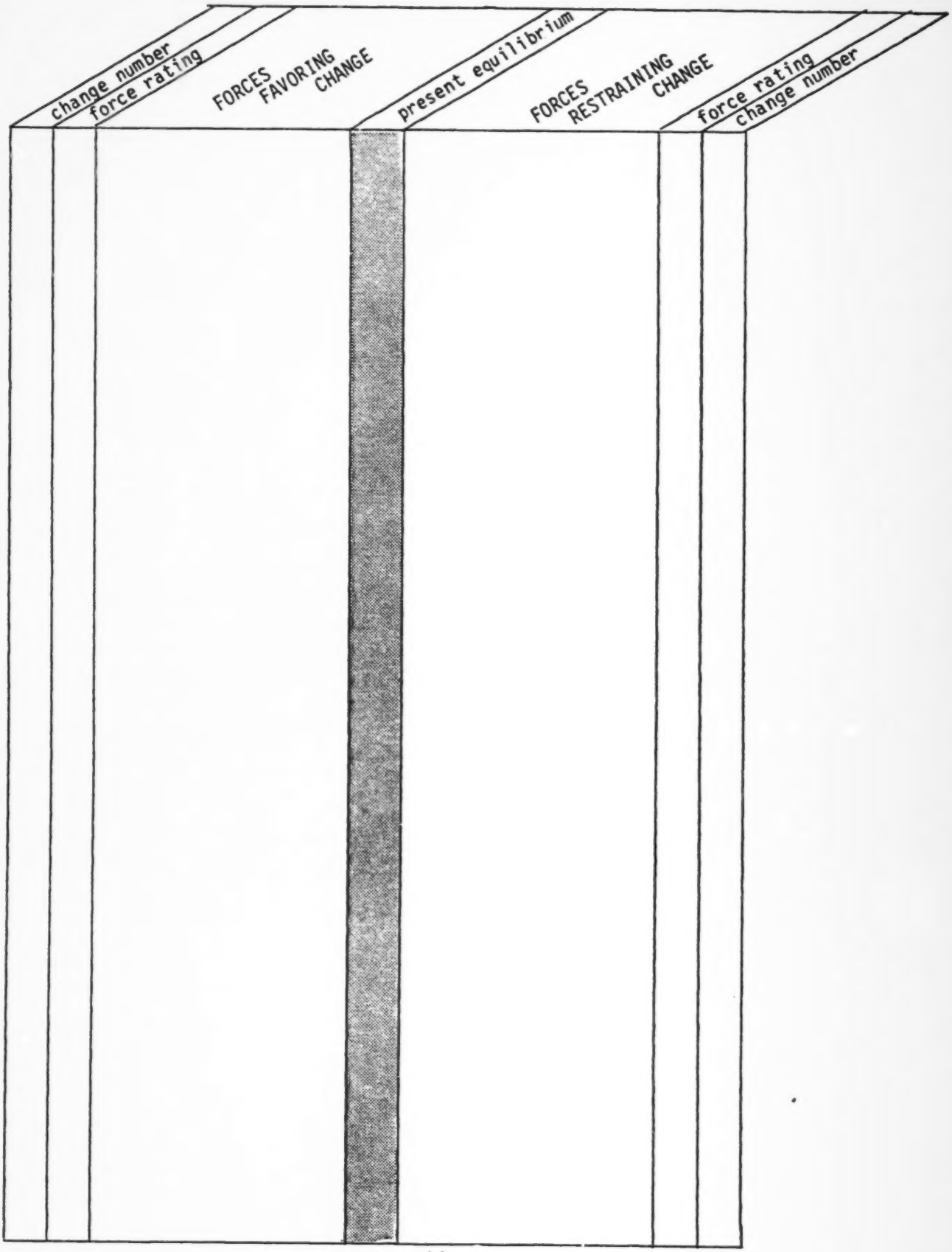
f. Build evaluation and controls into your plans so that change can be evaluated and the element further improved.


change number
force rating
FORCES FAVORING CHANGE
present equilibrium
FORCES RESTRAINING CHANGE
force rating
change number

46

Appendix C

EXAMPLE OF USE OF

FORCE-FIELD ANALYSIS

To Identify Opportunities to Improve Cooperative Education

PART 1: Problem Specification: To determine what opportunities there are to improve the effectiveness of the element:

Identifying Work Stations

Complete the following items with as much detail as possible.

1. It is important to improve this element at this time because:

Our present activities are not producing enough work stations for all the students who wish to enroll.

2. The following factors which determine usefulness and cost must be considered in any attempt to improve this element:

- competition from other agencies seeking to place people for employment and training,
- local labor market conditions, i.e., available work stations and future employment opportunities.
- resources available for identifying and recruiting new employers.

. the number and nature of the work stations needed, i.e., number of students in each occupation and level of their competence.

3. Change in this element would impact on other elements in the following ways:

. Dealing with employer problems: an increase in the number of new employers may lead to an increase in the number of problems the coordinator will face.

. Preparing student for work assignment: more resources needed to prepare more students.

. Matching students and jobs: more time needed for effective matching, matching less qualified students to appropriate jobs will be more difficult.

. Orienting employers & supervisors: more employers require more time for orientation.

. Criteria for selecting work stations: may have to be eased in order to get sufficient numbers of employers and to place less qualified students.

. Training work supervisors: More time required to train more supervisors and many will require help in supervising and training more educationally disadvantaged and

handicapped students.

- Monitoring training agreement: more employers will necessitate more time for monitoring and some employers less able to provide good experience and supervision will require more time per employee.

- Related class curriculum: more time and resources required for more students and less qualified students.

4. Barriers which may hinder making changes in this element are:

- Not enough funds and other resources to cover additional costs in this and other elements.

- Not enough time for additional work to expand present employer participation and develop new employer participation.

- Not enough employers within school area to permit expansion.

- Adverse impact on other elements.

- Adverse reaction from other organizations seeking jobs.

5. The following changes would lead to improvement in this element:

. additional resources for activity;

. involving others in identifying work stations;

. weakening criteria for acceptable work stations;

. placing additional students with present participating employers;

. gathering information about work stations using mail and telephone rather than personal visits.

6. Changes in other elements which may improve this element and how each would impact on this one:

. Recruiting students: limiting publicity to vocations leading to probable employment after secondary education would decrease need to expand.

. Selecting and assigning students: limit enrollment to students who intend to work full-time after graduation and giving priority to students who would benefit most in making the transition from school to employment. Would limit need and improve cost/benefit ratio.

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- Advisory Committee: increasing number of business influentials on the committee would improve contacts in the business community.

- Employer Recognition: more events and more publicity would provide additional incentives for employers to participate.

- Labor Market Analysis: determining which employers are most likely to benefit from employing high school students and graduates would help focus recruiting efforts.

PART 2: Problem Analysis: The present status of the element is a result of a temporary balance of driving force tending to produce change and restraining forces tending to prevent change.

7. List the forces which in general tend to favor change (reasons in "1") and to drive* toward the specific changes noted in "5" and "6." (Fill in the spaces to the right of the letters. Leave the spaces to the left blank.)
   The principal and school board want

*Some forces may tend to "drive" toward one change suggested and tend to "restrain" making another change. In these cases, note them under the primary direction of thrust here, but note both directions in the chart in item 11.

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increased participation in:

5 a. cooperative education. (Help get more resources.)

3 b. Students and Advisory Committee members want to help recruit work stations. (Involve others.)

4 c. There is a community push to improve transition from school to work. (Involve others.)

2 d. Some marginal employers want to participate. (Weaken criteria.)

4 e. There is community and parental pressure to place disadvantaged and handicapped students. (Involve others and get more resources.)

3 f. Many college bound students want jobs to earn money and get out of the classroom (Involve others.)

8. List the forces which in general tend to restrain* change noted in "4" and in the

*Some forces may tend to "drive" toward one change suggested and tend to "restrain" making another change. In these cases, not them under the primary direction of thrust here, but note both directions in the chart in item 11.

specific directions noted in "5" and "6." (Fill in the spaces to the right of the letters. Leave the spaces to the left blank.)

__5__ a. There are a limited number of jobs in appropriate occupations.

__5__ b. There is high unemployment among adults and out of school youth.

__4__ c. Limited resources are available to identify work stations.

__3__ d. State and federal authorities and good educational practice place restrictions on acceptable work stations.

__4__ e. Students and advisory committee members have had no experience in recuriting employers and may involve undesirable employers.

9. In the spaces to the left of the letters in item 7, rate the driving forces you have listed from 1 to 5 using the following scale:

1 = Has almost nothing to do with achieving change in the element.

2 = Has relatively little to do with achieving change in the element.

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3 = Is of moderate importance for achieving change in the element.

4 = Is an important factor for achieving change in the element.

5 = Is a major factor for achieving change in the element.

10. In the spaces to the left of the letters in item 8, rate the restraining forces you have listed, using the following scale:

1 = Has almost nothing to do with achieving change in the element.

2 = Has relatively little to do with achieving change in the element.

3 = Is of moderate importance for achieving change in the element.

4 = Is an important factor for achieving change in the element.

5 = Is a major factor for achieving change in the element.

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11. In the chart provided, diagram the forces driving toward change and restraining change that you rated in items eight and nine. Use key words to identify each of the forces driving toward change (a through e). Repeat the process for forces restraining change. If there are driving and restraining forces which relate to the same change, place them in the same slot. If several forces apply to the same change, put them on the same horizontal line. If a force applies to more than one change, repeat it for each change. "Change number" is the number of the changes noted in items 5 and 6*.

12. For each change with forces rated "5," develop a series of strategies and tactics to increase the potency of driving forces and reduce the potency of restraining forces. Continue this process with forces rated "4," "3," "2," and "1" in order, until an appropriate strategy is developed for each. Stop when you feel that you have developed a satisfactory overall strategy and set of tactics for accomplishing the desired changes. Compare strategies and tactics across changes and eliminate possible conflicts. It may

*Indicate whether "5" or "6" and change number. For example, 5/3 indicates the third change in item 5.

be that some proposed changes may have to be dropped as the restraining forces remain too strong to make change feasible.

- Force 7/a, "principal and school board," could be used to "obtain additional resources for activity." (Change 5/a.) Focus their attention on the relationship between resources available and the ability to identify appropriate work stations to get more resources and agreement to divert resources from other activities, e.g., recruiting more students. Send them a proposal showing the resources needed to identify and recruit more work stations.

- Force 7/b, "students' and Advisory Board's help" can be exploited for additional resources (5/a). They could be asked to help obtain more resources by appeals to the principal and school board and to outside sources with which they have contacts. They could also be used as a resource to identify and recruit work stations. They would require training and some supervision for this activity. Meet with each group, find what they can and want to do and use their help in the most effective way.

- Restraining force 8/d, "Limited resources" can be weakened by reallocating resources from other lower priority elements, e.g., monitoring the work place.

Possible conflicts and problems:
Principal and school board may object to pressure for more resources. Students and Advisory Committee activities and commitments may not be subject to effective control after they get under way. Reducing resources for "monitoring the work place" may be a poor trade-off.

13. Describe your plans in detail.

    a. Specify the problem to be solved or why the element is selected for improvement.

    . To identify sufficient appropriate work stations for all students who want and are eligible to participate in cooperative education. (Note how the statement of the problem has changed as a result of analysis.)

    b. Describe the changes that will improve the element or solve the problem. Show how the changes would achieve the objective.

    . Seek additional resources for work stations; identification from principal and school board.

    . Accept offer of Advisory Committee to seek work stations.

. Offer of students to help should not be accepted. It is too dangerous, e.g., students would expect that jobs they identify would be accepted and that they would be placed in them.

c. Describe in detail the tactics and strategy for accomplishing the changes. Explain why these should succeed and any trade-offs which may be involved. Describe resources, staff, etc. required and note how these would be obtained and used. Provide schedules, controls, etc.

. Send memo to principal. Prepare memo for principal to school board describing the situation, documenting the need for additional resources, and describing the resources needed, what would be accomplished with them, and, if possible, how to obtain them.

d. Indicate possible undesirable consequences for achieving other objectives and explain any trade-offs.

. If resources are diverted from other programs, the persons involved would be angry. If diverting from another element in your own program, the results may be counter-productive on an overall basis. Reconsider before deciding what to do.

e. Note possible difficulties in achieving the desired change and ways to overcome these.

. The principal may not want to divert funds from other programs without consulting the school board and may be unwilling to make a request of the school board. Present the proposal as part of the entire educational program and emphasize the forces in addition to the principal that are pushing for an expanded program, e.g., community people who want more disadvantaged and handicapped placed and the parents of college-bound students.

f. Build evaluation and controls into your plans so that change can be evaluated and the element further improved.

. Indicate the date by which additional resources must be made available for them to be useful this term.

Appendix C

change number	force rating	FORCES FAVORING CHANGE	present equilibrium	FORCES RESTRAINING CHANGE	force rating	change number
5/a	5	Principal & school board want more participation		Limited resources available	4	5/a
	3	Students & advisory board want to help				
5/b	3	Students & advisory board want to help		Students and advisory board inexperienced	4	5/b
5/c	2	Marginal employers want to participate		State and federal restrictions on work station	3	5/c
	3	College-bound want paying jobs		Improve transition from school to work	4	
	4	Pressure to place disadvantaged & handicapped				
5/d	5	Principal and school board		Limited number of jobs in occupations	5	5/d
	4	Pressure to place disadvantaged		Union resistance	5	
				Competition	3	
5/e	5	Principal and school board		Limited resources available	5	5/e
	4	Pressure to place disadvantaged & handicapped		Limited resources available	4	
	3	College-bound want paying jobs				
6/a	4	Improve transition from school to work		Principal and school board	5	6/a
	4	Pressure to place disadvantaged & handicapped		College-bound want paying jobs	3	
6/b	4	Improve transition from school to work		College-bound want paying jobs	3	6/b
	4	Pressure to place disadvantaged & handicapped				
1	5	Not enough work stations for all who want to participate.			5	1

APPENDIX D

WORKSHEET

Planning to Improve an Element

Element: _____

Problem Analysis[1]

_____

Opportunities for Improvement[2]

_____

Evaluation of Opportunities[3]

_____

Decision[4]

_____

1. Does not meet criteria, high cost, personnel not available, adverse impact on program outcome, etc.
2. From review of element description or field force analysis, or other analysis.
3. Impact on entire program, acceptance by environment, priority, cost-time frame and cost/benefit overall in short and long-term.
4. Nature of decision and rationale for decision.

KEY ELEMENTS GROUPED BY FUNCTIONAL AREA AND LEVEL OF IMPORTANCE
(Asterisks (*) indicate key elements located in more than one functional area.)

	FUNCTIONAL AREAS				
Level of Importance	A Obtaining Support for Program	B Goal Setting, Planning and Administration	C Employer Linkages, Relations and Cooperation	D In-School Program Activities	E Follow Up